**3.01 Unpacked Content**

1. Evolution of Multimedia
2. Multimedia Systems
   1. Playback Systems
   2. Development Systems
3. Multimedia Fair Uses Guidelines and Elements
   1. Fair Uses Guidelines
   2. Multimedia Elements
      1. Text
      2. Graphics
      3. Animation – 2-D and 3-D
      4. Audio
         1. Digitizing Sound
            1. Sampling – process used to convert analog sound waves into digital data to be used by computers.
            2. Sample rate – the number of samples taken per second.
            3. Sample size – the number of bits used to save one sample.
         2. Audio file size – determined by the sample rate, sample size and number of channels used.
         3. File Formats
            1. AU – Audio file
            2. MP3 – MPEG-1 Audio Layer 3
            3. MIDI – Musical Instrument Digital Interface
            4. WAV – Waveform file
            5. WMA – Windows Media Audio
      5. Video File Formats
         1. AVI – Audio Video Interleave
         2. MOV - Movie
         3. MPEG – Moving Picture Experts Group
         4. RM – Real Media
         5. WMV – Windows Media File
         6. FLV – Flash Video
4. Design Multimedia Presentations
   1. Multimedia Authoring Programs
      1. Create multimedia presentations
      2. Create interactive elements
      3. Design screen layouts
      4. Produce content with paint, text, and animation tools
      5. Incorporate text, sound, video, animation, and graphics
      6. Create hyperlinks
   2. Basic Parts of Multimedia Presentations
      1. Hyperlinks – “hot spots” that can be used to locate an external file, website or place in the current presentation.
         1. Menu – a list of options that use hyperlinks to move to other parts of the presentation.
         2. Navigation Buttons – buttons that are hyperlinked to other parts of the presentation and allow the user to navigate through the presentation
      2. Transitions
      3. Build Effects
   3. Basic Design Guidelines
5. Design Elements of Multimedia Presentations
   1. Balance – distribution of optical weight of the elements in the layout.
   2. Movement – how the viewer’s eyes move through the elements on the screen.
   3. Optical Center – the point the viewer’s eyes first encounter when they look at the screen. It is slightly above and to the right of the mathematical center.
   4. Optical Weight – the ability of elements to attract the viewer’s attention.
   5. Unity – how well the design elements relate to one another
6. Create Multimedia Presentations
   1. Plan Multimedia Presentations
   2. Prepare Multimedia Presentations
   3. Practice Presenting Multimedia Presentations
   4. Present Multimedia Presentations

Interactive Multimedia Presentations

**3.02 Unpacked Content**

1. Introduction
   1. Webpage – a document stored on a web server which can be accessed and viewed using a web browser on a computer or mobile device.
      1. Can contain graphics, audio and video.
      2. Can include hyperlinks to other documents on the World Wide Web.
   2. Website – a collection of related webpages.
   3. A website is developed to build a relationship with a target audience and is created for the following reasons:
      1. Sell – sells products or services:
         1. Advertises, demonstrates, and describes the features of a product or service
         2. Provides customer support
         3. Often includes a database (or catalog) of products and services
      2. Inform – provides information about a cause, event, or organization
         1. May sell products, but not for profit
         2. May provide online tutorials and demonstrations
      3. Entertain – provides information or links to movies, music, magazines, etc.
      4. Social Networking - provides a network where people can interact online.
      5. Hybrid - may be a combination of any of the four purposes listed above.
2. Webpage Development Standards
   1. Standards - basic set of guidelines for authoring languages used to make webpages.
   2. They are enacted to make websites accessible to everyone regardless of:
      1. Culture
      2. Education
      3. Ability
      4. Resources
      5. Physical Limitations
   3. The World Wide Web Consortium (W3C) develops webpage development standards.
   4. Advantages of Web Standards
      1. Helps ensure webpages display consistently in all browsers.
      2. Results in faster website development.
      3. Results in faster downloading of websites.
      4. Provides equal access to information regardless of browser, operating system or hardware.
3. United States Website Accessibility Legislation
   1. Section 508 Amendment to the Rehabilitation Act requires US Federal Agencies to make information and data equally accessible to individuals and employees with disabilities.
   2. Applies only to US government agencies.
4. Authoring Languages
   1. HTML - Hypertext Markup Language
      1. The first authoring language used to create files that can be viewed on the World Wide Web.
      2. Embedded tags define the layout and appearance of the webpage.
      3. HTML is platform independent.
      4. HTML 4.01 is the current version.
   2. XML - Extensible Markup Language
      1. Designed to carry data, not to display it.
      2. Uses author-defined tags to identify data so that the data can be easily imported into other applications.
   3. XHTML - Extensible Hypertext Markup Language – uses XML code along with the HTML programming language to develop webpages.
      1. Results in cleaner code
      2. Tags are more descriptive of the data they contain
5. Style Sheets
   1. Describe how browsers should present or display information on a webpage.
   2. Give web developers more control over layout and page formatting.
   3. CSS – Cascading Style Sheets is a popular style sheet language.
   4. Advantages
      1. One style sheet can control the formatting for multiple webpages. An entire website can be reformatted by editing one file.
      2. Styles can also be set internally.
   5. Disadvantage - may alter the ability of some devices to accurately read and display information.
6. Text Editors – allow developers to write code in plain text.
   1. Examples – Notepad, Notepad 2 and WordPad
   2. Microsoft Word should not be used to create webpages.
7. Website Organization
   1. Storyboard the website and determine the best website structure for the purpose and content of the site.
   2. Website Structures
      1. Linear - Use for pages that users need to read in order
         1. Topics arranged in chronological, alphabetical, or series order
         2. Include links to next page and back to previous and index page
      2. Hierarchical – Use to organize complex bodies of information
         1. Looks like a family tree or a chain of command
         2. Pages are organized and linked by categories and subcategories
      3. Webbed - Use when the order in which the user views the pages does not matter
         1. Allows users to jump to any page from any page on the website
         2. Navigation bars or menus are included on all pages.
8. HTML Overview
   1. HTML Tags
      1. Define text, graphics, hypertext links, and other multimedia elements found on webpages.
      2. Tell the browser how to display the document
   2. Rules for using HTML tags
      1. HTML tags are enclosed inside angle brackets: < >.
      2. The tag name is keyed between the two angle brackets. Example: <body>.
      3. With a few exceptions, tags occur in pairs with an opening and a closing tag.
         1. Example: <html> is an opening tag
         2. Example: </html> is a closing tag.
         3. The forward slash ( / ) is used in the closing tag.
         4. Text between the opening and closing tags is affected by the tag.
            1. Example: <b>Hello World!</b>
            2. Makes Hello World appear in bold.
         5. Exceptions
            1. Some tags are empty tags, meaning they do not have a closing tag, they only have an opening tag.
            2. Examples of empty tags: <br>, <hr>, <img>, <meta>
      4. Attributes - provide additional information about tags and control how the tag will be interpreted by the browser.
         1. Some tags have multiple attributes.
         2. Rules for using attributes:
            1. Attributes are entered inside the opening tag but not in the closing tag.
            2. Attributes are keyed in name/value pairs. Syntax: name=”value”
            3. The attribute should have an equal symbol followed by the value or setting for the attribute.
            4. Attribute values should be enclosed inside quotation marks.
   3. Requirements of XHTML
      1. All tags must be in lowercase.
      2. All tags must have a closing tag. Empty tags should be closed in the opening tag by placing a space and forward slash before the closing angle bracket. Example: <br />
      3. All tags must be properly nested.
         1. Nesting refers to the order in which tags are opened and closed.
         2. The closing tags are entered in the reverse order from the opening tags to achieve proper nesting.
      4. The <html> tag must be the root tag for every document.
      5. These requirements also work in HTML 4.01, but are not required. However, students should follow these guidelines when creating their webpages.
   4. Saving and Testing (X)HTML files
      1. Save the file with an .html extension.
      2. This identifies the file as a webpage to the browser.
      3. Open the page in a web browser to view it and check for errors.